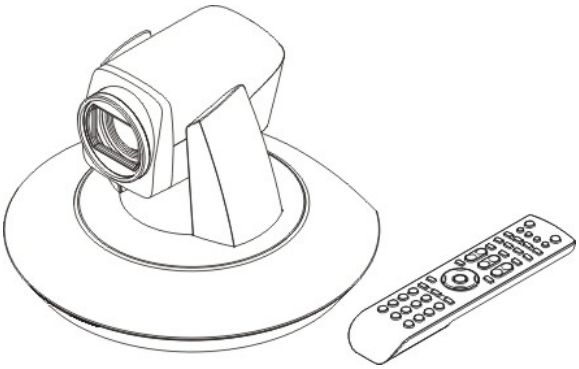
AMC 1080P/1080i HD

PTZ Color Video Cameras

User Manual V1.1



iSmart

www.ismart-video.com

SAFETY NOTICE-IMPORTANT!!!

- The following important notes must be followed carefully to run the camera and respective accessories in total safety. The camera and relative accessories are called video system in this section.
- Before installing the camera, please read this manual carefully. Please follow installation instructions indicated in this manual during installation. Please keep this manual for future use.
- The installation should be performed by qualified service personnel or system installers in accordance with all local rules.
- Before powering on the camera, please check the power voltage carefully. Make sure that you are using the correct power source.
- Please put the power cable, video cable and control cable in safe place.
- Do not operate the camera beyond the specified temperature and humidity. Working temperature range of the camera is between 0℃ and +40℃. The ambient humidity range is less than 95 % .
- During transporting, avoid violent shake or force to the camera.
- To prevent electric shock, do not remove screws or housing of the camera. There are no self-serviceable parts inside. Refer to qualified service personnel for servicing.
- Video cable and RS485 cable should be kept far away from other cables. Shielded and independent wiring is necessary for video and control cables.
- Never aim the lens of the camera at the sun or other extremely bright objects. Otherwise, it may cause damage.
- When cleaning the camera, please use soft cloth. If the camera is very dirty, wipe it off gently with a soft cloth moistened with a weak solution of water and a neutral kitchen detergent. Wring all liquid from the cloth before wiping the camera, then wipe off all remaining dirt with a soft, dry cloth. Use lens cleaning paper to clean the lens.

- Do not move the camera head manually. In doing so would result in malfunction of the camera. Do not hold the camera head when carrying the video camera.
- This camera is for indoor use only. It is not designed for outdoor use.
- Make sure the camera is not directly exposed to rain and water.
- Make sure the camera is far away from area where radiation, X-rays, strong electric waves, or magnetism is generated.

CONTENTS

ABOUT THE PRODUCT ---- 1

FEATURES ---- 1

LIST OF PARTS & ACCESSORIES ---- 1

MAIN PARTS & INTERFACES ---- 2

DIP SWITCHES SETTINGS ---- 3

REMOTE CONTROLLER ---- 4

CABLE CONNECTING INSTRUCTIONS ---- 6

DVI-I INTERFACE ---- 6

CABLE PACKAGE ---- 7

HD-SDI INTERFACE ---- 7

POWER CONNECTION ---- 8

REMOTE CONTROLLER OPERATION ---- 9

POWER ---- 9

HOME ---- 9

CAMERA SELECTION ---- 9

FOCUS ---- 9

PATTERN ---- 10

IRIS ---- 10

BLC ---- 10

ZOOM ---- 10

MENU ---- 10

BACK ---- 11

DIRECTION / MENU OPERATION ---- 11

OK ---- 11

DATA ---- 11

PRESET SETTING ---- 12

NUMBER KEYS ---- 12

CANCEL ---- 12

ENTER ---- 12

LIST OF SPECIAL PRESET COMMANDS ---- 12
INSTALLATION INSTRUCTIONS ---- 13
DESKTOP MOUNT INSTALLATION ---- 13
WALL MOUNT INSTALLATION ---- 13
CEILING MOUNT INSTALLATION ---- 14
PENDANT MOUNT INSTALLATION ---- 15
MENU SETTINGS ---- 16
MENU CONFIGURATION ---- 16
MENU EXPLANATION ---- 20
VIDEO ---- 21
EXPOSURE ---- 21
WHITE BALANCE ---- 22
PAN/TILT/ZOOM ---- 22
SYSTEM ---- 23
RESTORE DEFAULTS ---- 23
ANNEX 1 TECHNICAL SPECIFICATIONS ---- 24
ANNEX 2 SIZE AND DIMENSION ---- 26
ANNEX 3 SW1 DEFINITION ---- 27
TROUBLESHOOTING ---- 29

ABOUT THE PRODUCT

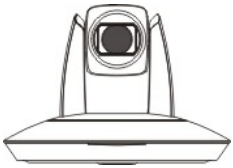
Features

- 1/2.8 inch Exmor CMOS sensor, 3.27megapixel;
- Supports full resolution up to1080/60P and SD video formats;
- Simultaneous outputs of HD and SD videos;
- HD video interfaces: HD-SDI, DVI-I;
- OSD menu;
- 20x optical zoom, 12x digital zoom;
- Precise driving system with high reliability and precision;
- Support VISCA , Daisy chain and Pelco protocols;
- With IR remote controller;
- Smart AE technology to effectively avoid the interference of complicated lights from projectors ,monitors etc;
- Desktop/Ceiling/ Wall/Pendant mount optional.

List Of Parts & Accessories

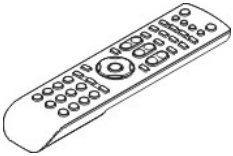
When you open the box, check all accessories according to the packing list.

Camera (1)



Power Adapter (1)

Remote Controller (1)

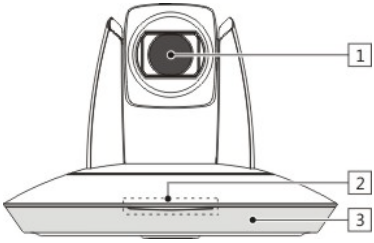


Cable Package (1)

Main Parts & Interfaces

Camera

Front View

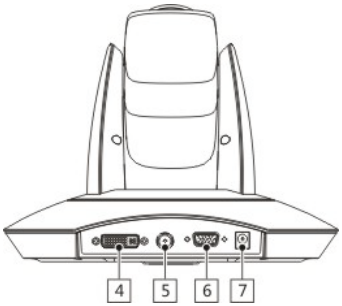


1Camera Module

2Power Indicator

3Remote Controller Indicator

Rear View



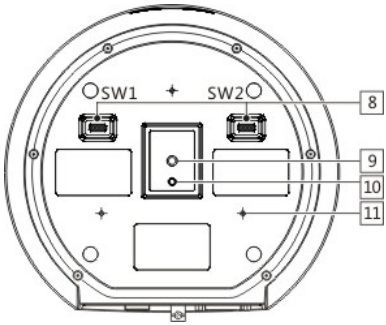
4 DVI-I interface

5 HD-SDI interface

6 Composite interfaces(CVBS output, RS48/RS422, RS232 in and RS232 out)

7 DC12V power input

Bottom View



8DIP Switch

Set camera address, protocol, baud rate, video format and mounting type.

9 Mounting Hole

1/4”inch screw thread for fixing camera.

10 Locating Hole

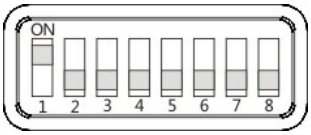
To defineinstallation direction of camera.

11 Fixing Screw Hole (M3)

To connect the camera with pendant mounting bracket.

DIPSwitches Settings

Before operating the camera, set the camera address, DVI-I output signal format and video format etc through DIP switches. The camera has two DIP switches: SW1 and SW2 as below:



Note

SW1 is used to set address, video output and mounting type, SW2 is used to set protocol, baud rate and video format.

Default Settings	
Address	1
Baud Rate	9600bps
Protocol	VISCA
Video Format	1080i50
Analog Video Format	YPbPr
Mounting Type	Desktop Installation

Sw1 settings

No 1~6 are used to set address for camera, the DIPs adopt binary system. No. 7 is used to set analog video format. No. 8 is used to set mounting type. Refer to page 27 for details.

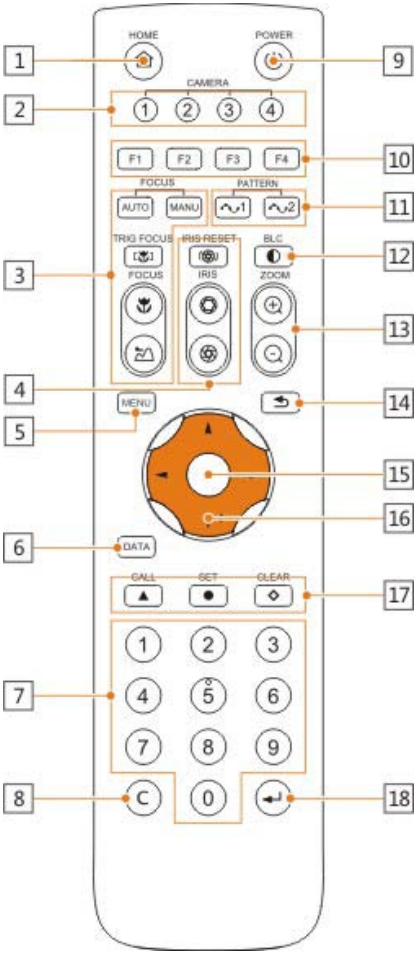
Sw2 settings

No. 1 and 2 of SW2 is used to set protocol; no. 3 and 4 is used to set baud rate; no. 5, 6, 7, 8 is used to set video output format. Refer to below chart for details:

SW2					
DIP No.	1	2			
Protocol	OFF	OFF	VISCA		
	ON	OFF	PELCO- D		
	OFF	ON	PELCO- P		
	ON	ON	Reserved		
DIP No.	3	4			
Baud Rate(bps)	OFF	OFF	2400		
	ON	OFF	4800		
	OFF	ON	9600		
	ON	ON	38400		
DIP No.	5	6	7	8	
Video Format	OFF	OFF	OFF	OFF	1080P60
	ON	OFF	OFF	OFF	1080P50
	OFF	ON	OFF	OFF	1080i60
	ON	ON	OFF	OFF	1080i50
	OFF	OFF	ON	OFF	720P60
	ON	OFF	ON	OFF	720P50
	OFF	ON	ON	OFF	1080P30
	ON	ON	ON	OFF	1080P25
	OFF	OFF	OFF	ON	720P30
	ON	OFF	OFF	ON	720P25

When HD video output format is set as 1080p60,1080i60 or 720p60, relative SD video format is NTSC; when HD video output format is set as 1080p50, 1080i50 or 720p50, relative SD video format is PAL.

Remote Controller



1 HOME

Press HOME button, camera moves to initial position where both pan and tilt angle is zero.

2 Camera Selection Button

Used to switch among 4 cameras, press 1-4 number buttons to control cameras with 1-4 addresses respectively. For example, press button 1 to control the camera with address 1.

3 Focus

Press“AUTO”button to switch to Auto Focus, press “MANU” button to switch to Manual Focus mode.

“”button to Focus Near

“”button to Focus Far

“”button to Auto Focus once every time it is pressed, then switch back to Manual Focus mode.

4 Iris

Press“”button to reset iris value to default.“”button to Iris Open

“”button to Iris Close.

5 Menu

Press MENU button to enter / exit menu.

6 Data

Press DATA button to set on / off the display of pan tilt angel, zoom times and other prompt message.

7 Number Keys

Used to input numbers, for example, preset number.

8 Cancel

To cancel numbers input

9Power

After the camera has been connected to power source, in none-menu status, press this button to turn on / off the camera.

10 Reserved buttons（**F1**, **F2**, **F3**, **F4**）

These buttons are reserved for future use.

11Pattern

Used to activate Pattern Scan1 and Pattern Scan2.

12 BLC

Used to open / close back light compensation.

13 Zoom

Used to adjust zooming times.

"⊕"button to zoom in

"⊖"button to zoom out.

14 Back

Press"⮌ "button to go back to previous menu.

15OK

In None-menu status: press this button to switch among pan / tilt control speeds.

In Menu status: get into relative menu option after it has been selected.

16Direction / Menu Operation

In None-menu status, press these four buttonsto pan left/right and tilt up/down.

In Menu status: ▲or ▼button to select among menu options, ◄or ►to change option / value.

17Preset Setting

"▲"button to call a preset.

Input number key(s), and then press this button to call a preset.

"●"button to set a preset.

Move the camera to a specific position, adjust focus value and etc, and then press this button to set a preset.

"◇"button to clear a preset.

Input number key(s), and then press this button to clear a preset.

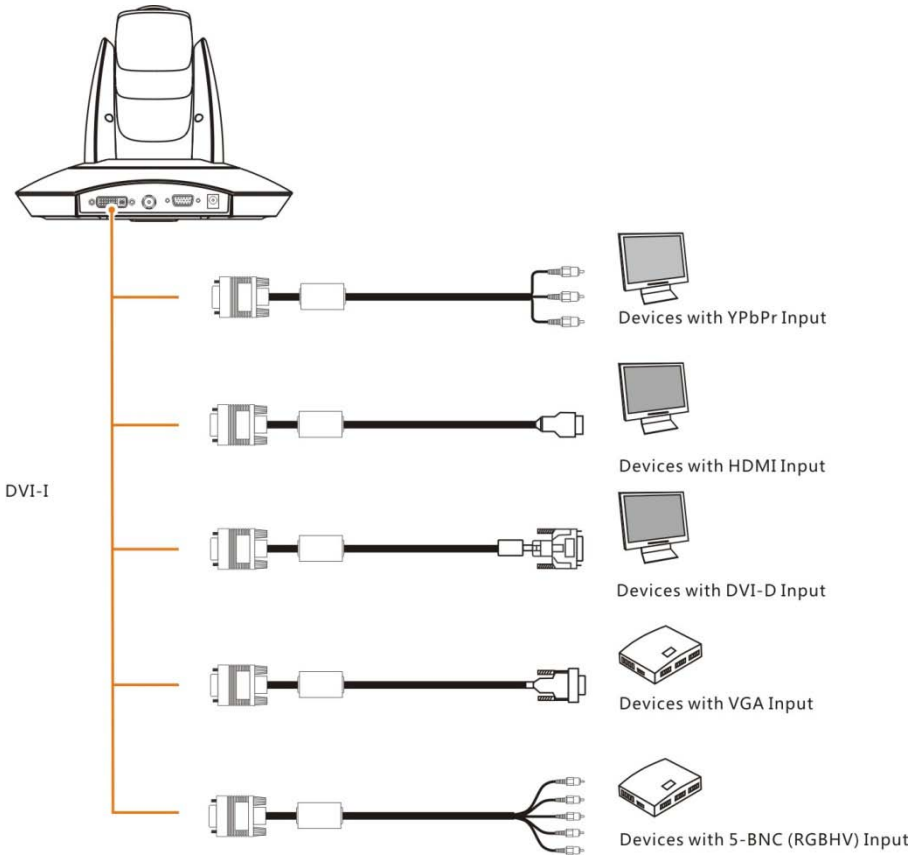
18Enter

After inputting numbers, press this button to confirm.

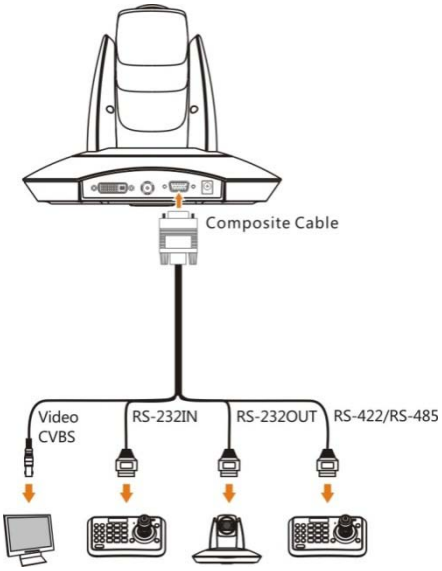
CABLE CONNECTING INSTRUCTIONS

Connect the camera to relative devices with the cables supplied with the camera.

DVI-I Interface



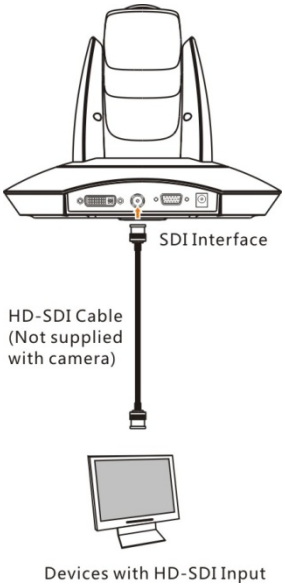
Cable Package



Note

Once the RS-422/RS-485 interface is used as RS485 control, simply connect R+ & T+ as RS485+ and R- & T- as RS485-.

HD-SDI Interface

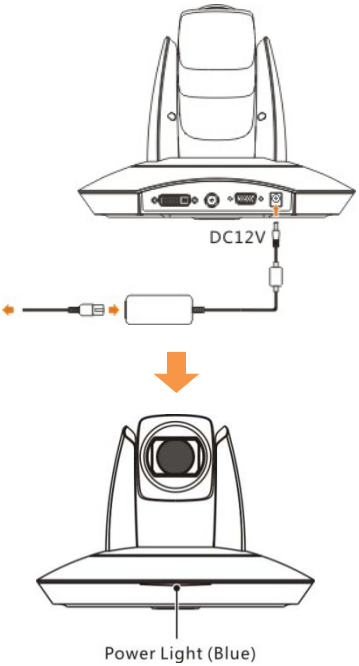


Power Connection

1. Connect power adapter supplied together with the camera to power source, after powered on, camera's power indicator lightsup, the camera will start self-testing, afterfinished, camera moves to Home position.

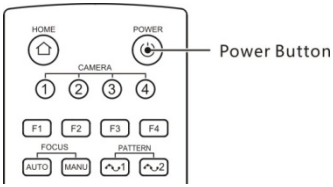
Note

If preset 0 has been saved, after powered on, camera moves to preset 0 automatically; if preset 0 has not been saved, after powered on, camera moves to Home position, where both pan and tilt angle is zero and zooming time is 1x.



2. Use remote control to turn on / off camera

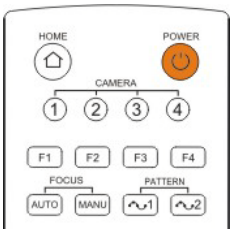
Once camera started successfully, in None-menu status, the Power button can be used to turn on /off the camera.



REMOTE CONTROLLER OPERATION

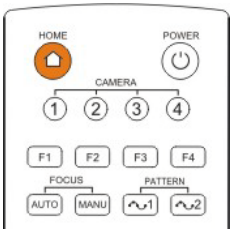
Before operating the camera, check if power and other devices have been correctly connected.

Power



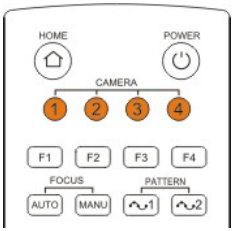
In none-menu status, press this button to turn on / off the camera.

Home



Press HOME button, camera moves to initial position where both pan and tilt angle is zero.

Camera Selection



Used to switch among 4 cameras, press 1-4 number buttons to control cameras with 1-4 addresses respectively. For example, press button 1 to control the camera with address 1.

Default address of camera is 1, the remote controller supports to control camera with address 0 or 5~63.

Focus

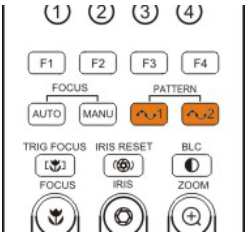
Press“AUTO”button to switch to Auto Focus, press “MANU” button to switch to Manual Focus mode.

“ ”button to Focus Near

“ ”button to Focus Far

“[ ]”button to Auto Focus once every time it is pressed, then switch back to Manual Focus mode.

Pattern



Used to activate Pattern Scan1 and Pattern Scan2.

Pattern Scan 1: camera pans between±45°of current position.

Pattern Scan 2: camera pans between ±90° of current position.

Iris

Press“ ”button to reset iris value to default.

“ ”button to Iris Open

“ ”button to Iris Close.

BLC

Used to open / close back light compensation.

Zoom

Used to adjust zooming times.

“ ”button to zoom in

“ ”button to zoom out.

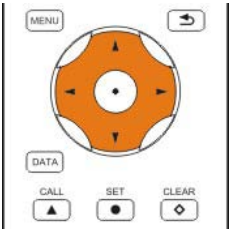
Menu

Press MENU button to enter /exit menu.

Back

Press“ ”button to go back to previous menu.

Direction / Menu Operation



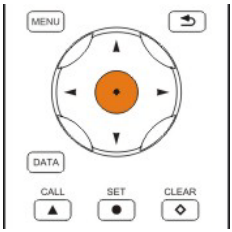
Direction

In None-menu status, press these four buttons to pan left/right and tilt up/down. Fast and frequently press button to realize fast control; press and hold the button to realize slow control.

Menu operation

In Menu status: or button to select among menu options, or to change option / value.

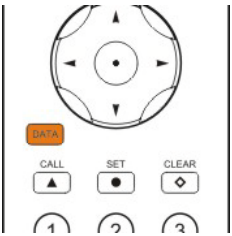
OK



In None-menu status: press this button to switch among pan / tilt control speeds.

In Menu status: get into relative menu option after it has been selected.

Data



Press DATA button to set on / off the display of pan tilt angel, zoom times and other prompt message.

Preset Setting

"▲"button to call a preset.

Numbers input key(s), and then press this button to call a preset.

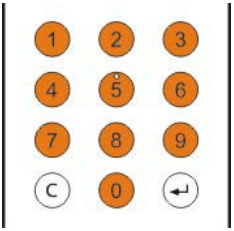
"●"button to set a preset.

Move the camera to a specific position, adjust focus value and etc, and then press this button to set a preset.

"◇"button to clear a preset.

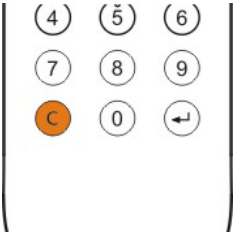
Input number key(s), and then press this button to clear a preset.

Number Keys



Used to input numbers.

Cancel



To cancel numbers input.

Enter

After inputting number(s), press this button to confirm.

List of Special Preset Commands

Preset No.	Function
93	Cruise, camera switches among saved 0~29 presets repeatedly and sequentially in fixed interval.
95	Get into menu
96	Delete all presets

INSTALLATION INSTRUCTIONS

The camera has 4 installation types: desktop, ceiling, wall, pendant mount installations.

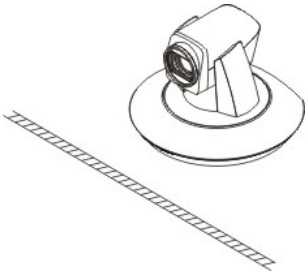
Note

Before installing, make sure there is enough space to install the camera and its parts.

Make sure the installed place is strong and safe enough to hold the camera and relative parts, it is suggested that the installed place can withstand 4 times the weight of the camera and its relative parts.

Desktop Mount Installation

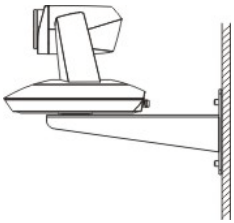
1. Put the camera on a flat surface. In case the camera has to be placed on an inclined surface, make sure the cline angle is less than 15 degrees to ensure proper pan /tilt operation.



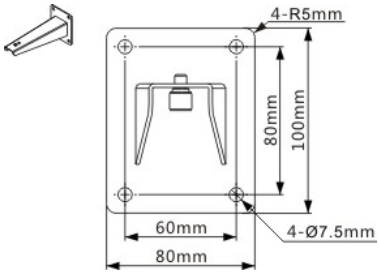
Note

- Take effective measures to avoid camera from dropping.
- Do not grab the camera head when carrying.
- Do not rotate the camera head with hand. It may cause malfunction to the camera.

Wall Mount Installation

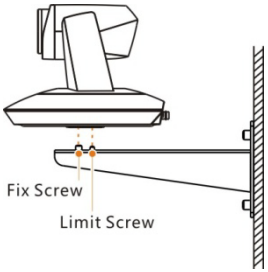


1. According to diameter and position of the 4 installation holes (As shown below) on the bracket, drill 4 holes on the wall and fix the bracket onto the wall by using 4 screws which should be prepared by you.

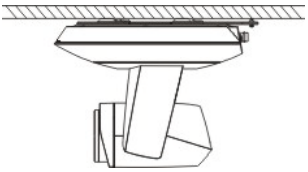


2. Before fixing the camera, set the DIP switches of the camera correctly.

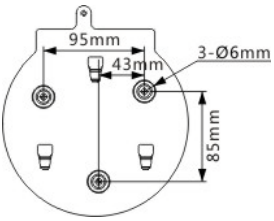
3. Use inch screws to fix the camera on the bracket, fix the limit screw according to actual requirement, and make sure the camera is tightly fixed onto the bracket before your hands leave the camera.



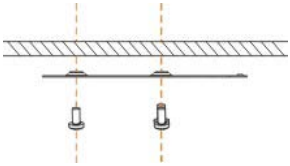
Ceiling Mount Installation



1. According to diameter and position of the 3 installation hole (as shown below), drill 3 holes on the ceiling or cement roof correspondingly.



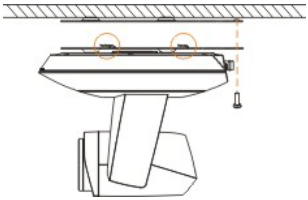
2. Fix the mounting plate onto the ceiling or cement roof with 3 screws which should be prepared by you.



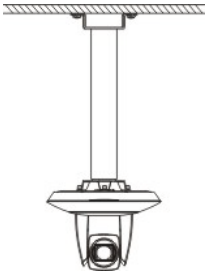
3. Before fixing the camera, set the DIP switches of the camera correctly.

4. Use 3 screws to fix the camera on the ceiling mount plate.

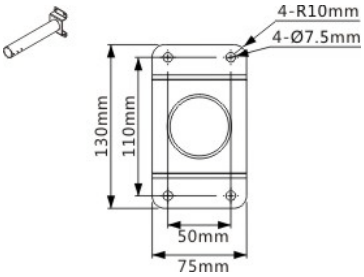
5. Push forward camera's bottom slide according to the mounting plate's bottom slide until they reach their limit. Fix the ceiling mount plate and camera's bottom plate with M3×8 screws.



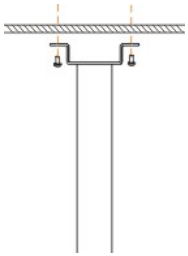
Pendant Mount Installation



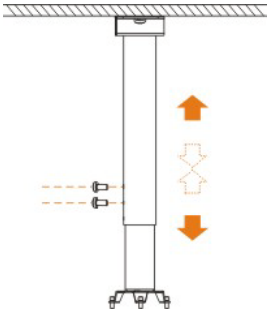
1. According to diameter and position of the 4 holes on the pole (as shown below), drill 3 holes on the ceiling or cement roof.



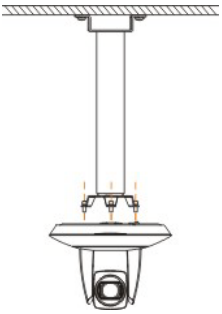
2. Fix the upper pole brackets onto the wall or cement roof tightly with 4 screws which are prepared by you.



3. Use 2 screws to fix the upper pole and lower pole. The length is adjustable ranging from 350mm~600mm.

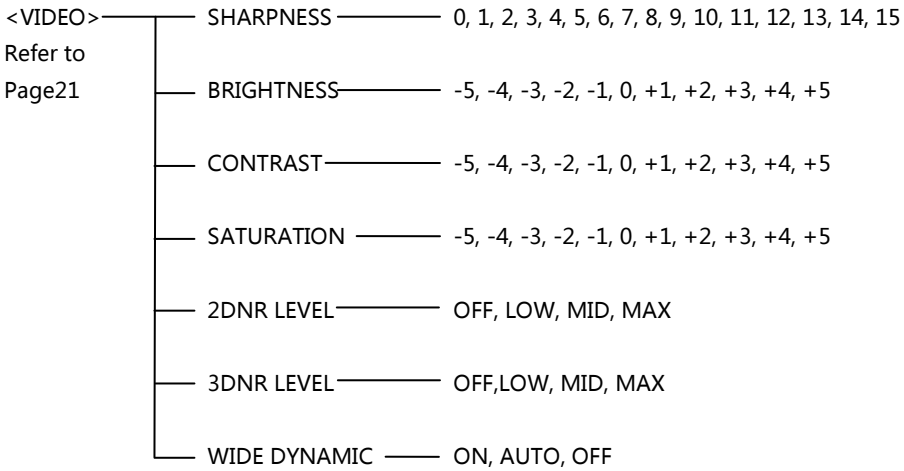


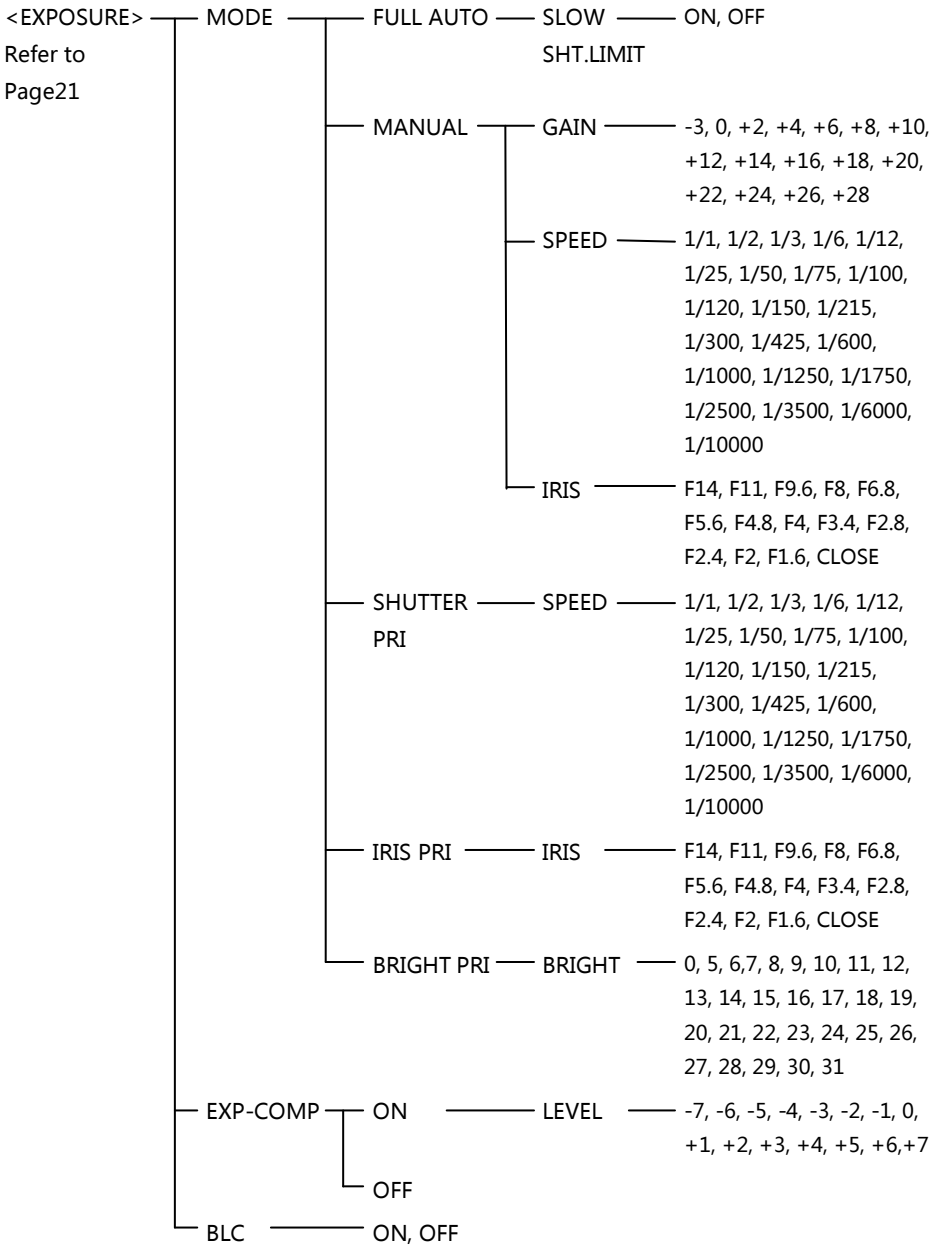
4. Use screws to fix camera on the lower pole. Make sure the camera is tightly fixed onto the bracket before your hands leave the camera.

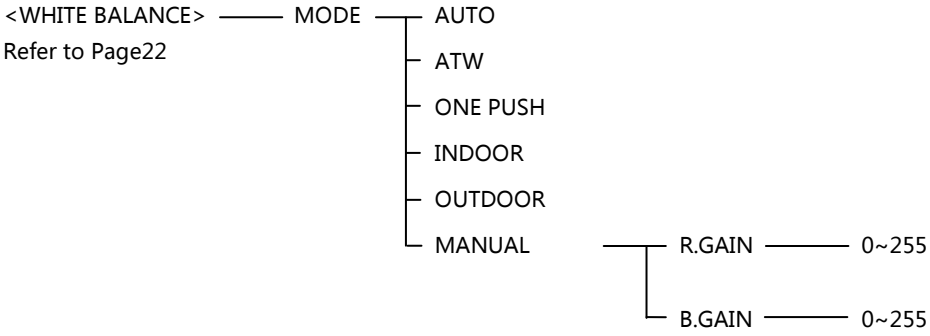


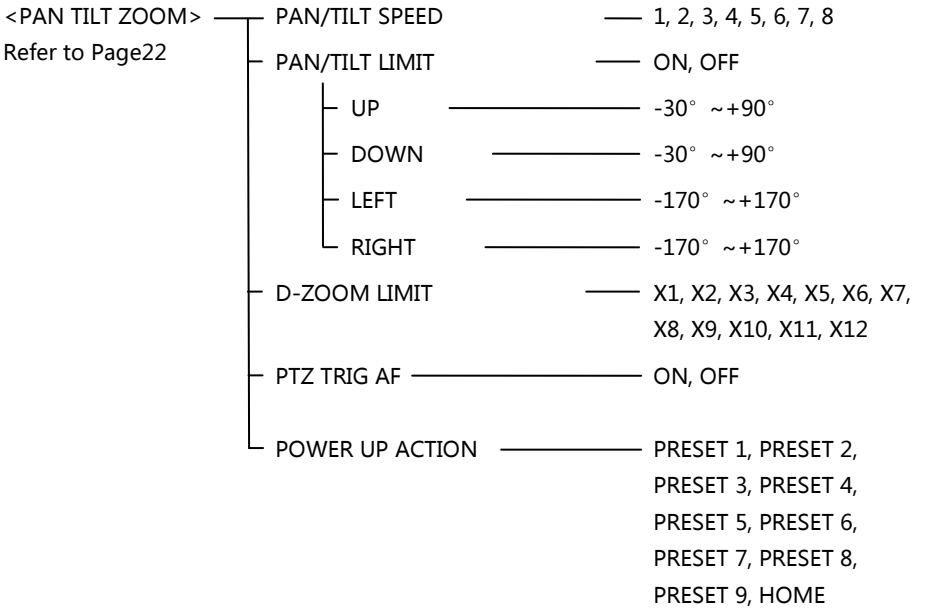
MENU SETTINGS

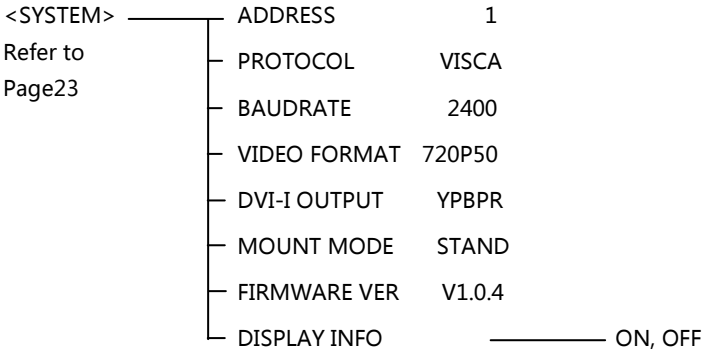
Menu Configuration


<VIDEO>
Refer to
Page21
SHARPNESS
0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
BRIGHTNESS
-5, -4, -3, -2, -1, 0, +1, +2, +3, +4, +5
CONTRAST
-5, -4, -3, -2, -1, 0, +1, +2, +3, +4, +5
SATURATION
-5, -4, -3, -2, -1, 0, +1, +2, +3, +4, +5
2DNR LEVEL
OFF, LOW, MID, MAX
3DNR LEVEL
OFF,LOW, MID, MAX
WIDE DYNAMIC
ON, AUTO, OFF


<EXPOSURE>
Refer to
Page21
MODE
FULL AUTO
SLOW SHT.LIMIT
ON, OFF
MANUAL
GAIN
-3, 0, +2, +4, +6, +8, +10, +12, +14, +16, +18, +20, +22, +24, +26, +28
SPEED
1/1, 1/2, 1/3, 1/6, 1/12, 1/25, 1/50, 1/75, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000
IRIS
F14, F11, F9.6, F8, F6.8, F5.6, F4.8, F4, F3.4, F2.8, F2.4, F2, F1.6, CLOSE
SHUTTER PRI
SPEED
1/1, 1/2, 1/3, 1/6, 1/12, 1/25, 1/50, 1/75, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000
IRIS PRI
IRIS
F14, F11, F9.6, F8, F6.8, F5.6, F4.8, F4, F3.4, F2.8, F2.4, F2, F1.6, CLOSE
BRIGHT PRI
BRIGHT
0, 5, 6,7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31
EXP-COMP
ON
LEVEL
-7, -6, -5, -4, -3, -2, -1, 0, +1, +2, +3, +4, +5, +6,+7
OFF
BLC
ON, OFF


<WHITE BALANCE>
Refer to Page22
MODE
AUTO
ATW
ONE PUSH
INDOOR
OUTDOOR
MANUAL
R.GAIN
0~255
B.GAIN
0~255


<PAN TILT ZOOM>
Refer to Page22
PAN/TILT SPEED
1, 2, 3, 4, 5, 6, 7, 8
PAN/TILT LIMIT
ON, OFF
UP
-30° ~+90°
DOWN
-30° ~+90°
LEFT
-170° ~+170°
RIGHT
-170° ~+170°
D-ZOOM LIMIT
X1, X2, X3, X4, X5, X6, X7,
X8, X9, X10, X11, X12
PTZ TRIG AF
ON, OFF
POWER UP ACTION
PRESET 1, PRESET 2,
PRESET 3, PRESET 4,
PRESET 5, PRESET 6,
PRESET 7, PRESET 8,
PRESET 9, HOME

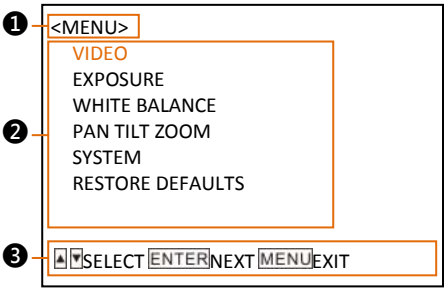


<RESTORE DEFAULTS>
Refer to Page23

Menu Explanation

Main Menu

Press MENU button to enter / exit menu.



❶Menu Hint

It displays currently selected menu option.

❷Menu Options

It displays options under current menu hint.

Press ▲ or ▼ button to select among menu options, once font of options turned from white color to yellow color, it indicates the menu has been elected, press OK button to get into this menu.

❸Prompt Message

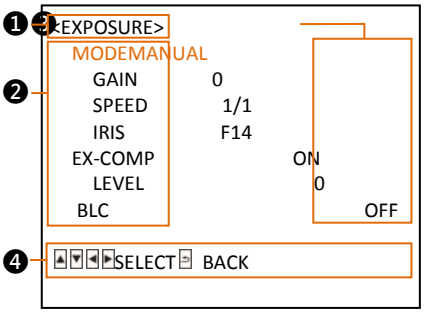
"▲▼SELECT"indicates it is possible to press ▲ or ▼ button to select menu options.

"ENTER NEXT"indicates it is possible to press OK button to enter next level menu.

"MENU EXIT"indicates it is possible to press MENU button to exit menu.

Submenus

From main menu, navigate to select <EXPOSURE> menu, press OK to enter.



❶ Menu Hint

It displays currently selected menu option.

❷ Menu Options

It displays options under current menu hint.

Press ▲ or ▼ button to select among menu options, once font of options turned from white color to yellow color, it indicates the menu has been elected, press OK button to get into this menu.

❸Manual Exposure

Press ◄ or ► button to change value.

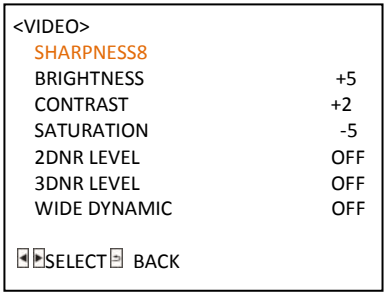
❹Prompt Message

"▲▼◄► SELECT"indicates it is possible to press ▲ or ▼ to select menu options, press ◄ or ► to change value

"BACK"indicates it is possible to press ↩ to return to previous menu.

VIDEO

VIDEO menu is used to change video value.



Available Options:

SHARPNESS:0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15.

BRIGHTNESS:-5, -4, -3, -2, -1, 0, +1, +2, +3, +4, +5.

CONTRAST:-5, -4, -3, -2, -1, 0, +1, +2, +3, +4, +5.

SATURATION:-5, -4, -3, -2, -1, 0, +1, +2, +3, +4, +5.

2DNR LEVEL: OFF, LOW, MID, MAX

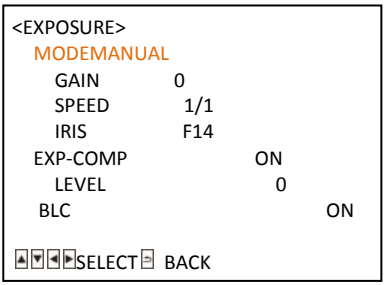
If camera displays color image, it is suggested to turn off the 2DNR level, otherwise, the video trails will be generated. The higher the level is, the better is the noise reduction performance, but more video trails will be generated.

3DNR LEVEL: OFF, LOW, MID, MAX.

WIDE DYNAMIC: ON, AUTO, OFF

EXPOSURE

EXPOSURE menu is used to adjust exposure value.



Available Options:

MODE:

FULL AUTO: Gain, Shutter Speed and Iris value are adjusted automatically accordingly to working environment.

SLOW SHT. LIMIT:this option sits under “Full Auto”, there are On and Off options.

MANUAL:manually adjust Gain, Shutter Speed and Iris

GAIN: -3, 0, +2, +4, +6, +8, +10, +12, +14, +16, +18, +20, +22, +24, +26, +28.

SPEED: 1/1, 1/2, 1/3, 1/6, 1/12, 1/25, 1/50, 1/75, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000s

IRIS: F14, F11, F9.6, F8, F6.8, F5.6, F4.8, F4, F3.4, F2.8, F2.4, F2, F1.6, CLOSE.

SHUTTER PRI: Gain and Iris value are adjusted automatically according to working environment; shutter speed value is adjustable manually.

SPEED:1/1, 1/2, 1/3, 1/6, 1/12, 1/25, 1/50, 1/75, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000s.

IRIS PRI: Gain and shutter speed value are adjusted automatically according to working environment; Iris value is adjustable manually.

IRIS: F14, F11, F9.6, F8, F6.8, F5.6, F4.8, F4, F3.4, F2.8, F2.4, F2, F1.6, CLOSE.

BRIGHT PRI: manually adjust bright of image.

BRIGHT: 0, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31.

EXP-COMP:onceEXP-COMP is set as On, below level options become available -7, -6, -5, -4, -3, -2, -1, 0, +1, +2, +3, +4, +5, +6, +7

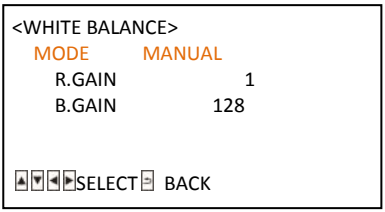
+7 is the maximumcompensation value for bright, -7 is the maximum compensation value for dark.

BLC : ON, OFF

Backlight compensation(BLC) is video gain done automatically to correct the exposure of subjects that are in front of a bright light source.

WHITE BALANCE

WHITE BALANCE menu is used to select from white balance modes. Available options:



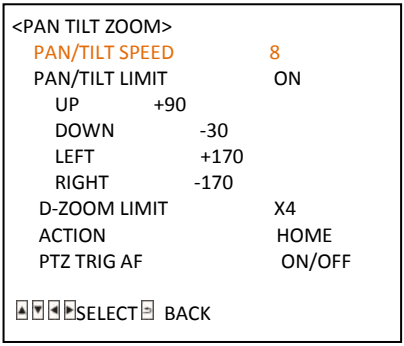
MODE: AUTO, ATW(auto tracking), ONE PUSH, INDOOR, OUTDOOR, MANUAL.

“ONE PUSH”:when in “ONE PUSH TRIGGER” mode, aim the camera at a pure white object (say a white paper), then press OK button.

“MANUAL”mode: R.GAIN and B. GAIN value can be chosen from 0~255.

PAN/TILT/ZOOM

PAN/TILT/ZOOM is used to change pan/tilt/zoom value, available options:



PAN/TILT SPEED: 1,2,3,4,5, 6, 7, 8 the bigger the number is, the faster the speed is. The speed is the fastest when in 1x zoom compared to other zooming times.

High speed:15°~50° (increased by every 5°)

Low speed:4°~11° (increased by every1°)

PAN/TILT LIMIT: ON/OFF, once it is set as ON, below limit value can be set

UP:-30°~+90°, adjustable every 1°;

DOWN:-30°~+90°, adjustable every 1°;

LEFT:-170°~+170°, adjustable every 1°;

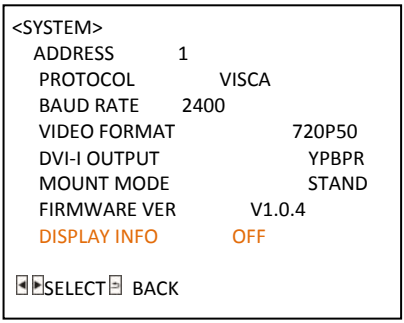
LIGHT:-170°~+170°, adjustable every 1°.

D-ZOOM LIMIT: X1, X2, X3, X4, X5, X6, X7, X8, X9, X10, X11, X12.

PTZ TRIG AF: Turn ON / OFF the auto focus when the camera pans / tilts / zooms.

POWER UP ACTION: PRESET 1, PRESET 2, PRESET 3, PRESET 4, PRESET 5, PRESET 6, PRESET 7, PRESET 8, PRESET 9, HOME.

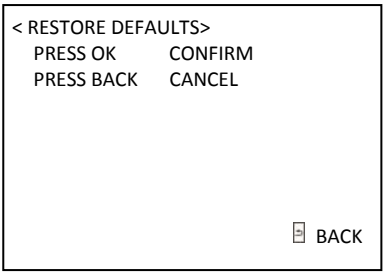
SYSTEM



It displays current camera's address, protocol, baud rate, video format, mount mode and software version number.

DISPLAY INFO: Turn ON / OFF display of pan / tilt angle and prompt message.

RESTORE DEFAULTS



RESTORE DEFAULTS option is used to reset all menus to default value. Press OK to confirm or press ↩ to cancel and return to previous menu.

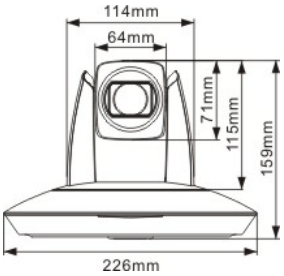
ANNEX 1 TECHNICAL SPECIFICATIONS

Model	AMC-S2003
Image Sensor	1/2.8" Exmor CMOS,3.27 megapixel
Signal System (HD)	1080p/60, 1080p/30, 1080i/60, 720p/60, 720P/30 1080p/50, 1080p/25, 1080i/50, 720p/50, 720P/25
Signal System (SD)	NTSC, PAL
Focal Lens	f=4.7mm-94.0mm
Iris	F1.6-F3.5
Optical Zoom	20x
Digital Zoom	12x
Min. object distance	10mm-1,000mm
Horizontal Viewing Angle	55.4°-2.9°(1080P mode)
Focus System	Auto, Manual, PTZ trigger, One push trigger
Min. Illumination	0.5lux(color), 0.095lux(B/W)
Shutter Speed	1/1 to 1/10,000s
Gain	Auto /Manual
White Balance	Auto, indoor, outdoor, one push, manual, auto tracking
Wide Dynamic	Yes
Exposure Control	Auto, Manual, Shutter Priority, Iris Priority, Bright Priority
S/N	≥50dB
Pan Angle	-170°~+170°
Tilt Angle	-30°~+90°
Pan Speed	0.1°~160°/S
Tilt Speed	0.1°~120°/S
Preset Number	256
OSD	Yes
Image Flip	Yes
Wide Angle Lens	Optional
HD video output	DVI-I(for DVI-D, HDMI, YPbPr, VGA, 5-BNC),HD-SDI
SD Video Output	CVBS
Control Interface	RS-232IN, RS-232OUT, RS-422, RS-485
Protocol	VISCA(daisy chain) / PELCO-P/PELCO-D
Address	0~63
Power	DC12V
Power Consumption	＜15W
Operating Temperature	0°C~+40°C
Storage Temperature	-20°C~+60°C

Dimensions （W×H×D）	226mm×206mm×159mm
Weight	1.7KG
Body color	White / grey

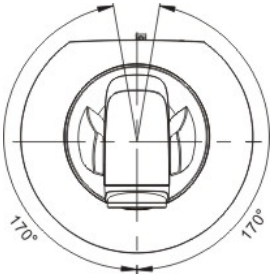
ANNEX 2 SIZE AND DIMENSION

Front

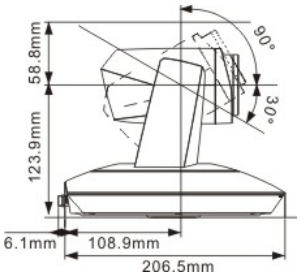


Rear

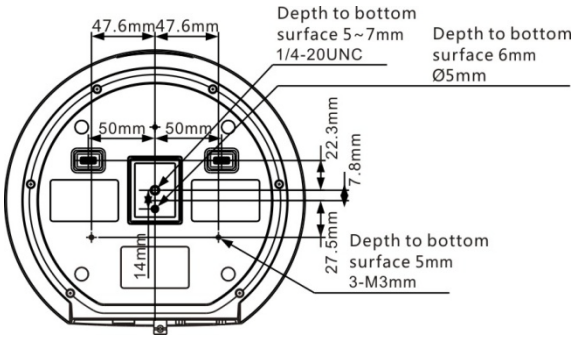
Top



Side



Bottom



ANNEX 3SW1 DEFINITION

DIP No. / Address	1	2	3	4	5	6
0	OFF	OFF	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF
9	ON	OFF	OFF	ON	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF
12	OFF	OFF	ON	ON	OFF	OFF
13	ON	OFF	ON	ON	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF
15	ON	ON	ON	ON	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF
17	ON	OFF	OFF	OFF	ON	OFF
18	OFF	ON	OFF	OFF	ON	OFF
19	ON	ON	OFF	OFF	ON	OFF
20	OFF	OFF	ON	OFF	ON	OFF
21	ON	OFF	ON	OFF	ON	OFF
22	OFF	ON	ON	OFF	ON	OFF
23	ON	ON	ON	OFF	ON	OFF
24	OFF	OFF	OFF	ON	ON	OFF
25	ON	OFF	OFF	ON	ON	OFF
26	OFF	ON	OFF	ON	ON	OFF
27	ON	ON	OFF	ON	ON	OFF
28	OFF	OFF	ON	ON	ON	OFF
29	ON	OFF	ON	ON	ON	OFF
30	OFF	ON	ON	ON	ON	OFF
31	ON	ON	ON	ON	ON	OFF
32	OFF	OFF	OFF	OFF	OFF	ON
33	ON	OFF	OFF	OFF	OFF	ON
34	OFF	ON	OFF	OFF	OFF	ON
35	ON	ON	OFF	OFF	OFF	ON
36	OFF	OFF	ON	OFF	OFF	ON
37	ON	OFF	ON	OFF	OFF	ON
38	OFF	ON	ON	OFF	OFF	ON
39	ON	ON	ON	OFF	OFF	ON

40	OFF	OFF	OFF	ON	OFF	ON
41	ON	OFF	OFF	ON	OFF	ON
42	OFF	ON	OFF	ON	OFF	ON
43	ON	ON	OFF	ON	OFF	ON
44	OFF	OFF	ON	ON	OFF	ON
45	ON	OFF	ON	ON	OFF	ON
46	OFF	ON	ON	ON	OFF	ON
47	ON	ON	ON	ON	OFF	ON
48	OFF	OFF	OFF	OFF	ON	ON
49	ON	OFF	OFF	OFF	ON	ON
50	OFF	ON	OFF	OFF	ON	ON
51	ON	ON	OFF	OFF	ON	ON
52	OFF	OFF	ON	OFF	ON	ON
53	ON	OFF	ON	OFF	ON	ON
54	OFF	ON	ON	OFF	ON	ON
55	ON	ON	ON	OFF	ON	ON
56	OFF	OFF	OFF	ON	ON	ON
57	ON	OFF	OFF	ON	ON	ON
58	OFF	ON	OFF	ON	ON	ON
59	ON	ON	OFF	ON	ON	ON
60	OFF	OFF	ON	ON	ON	ON
61	ON	OFF	ON	ON	ON	ON
62	OFF	ON	ON	ON	ON	ON
63	ON	ON	ON	ON	ON	ON

DIP No.	7	
Analog Video Format	ON	VGA, 5-BNC (HD-SDI or YPbPr output is not supported)
	OFF	YPbPr
DIP No.	8	
Mounting Type	ON	Ceiling
	OFF	Desktop

TROUBLESHOOTING

Problem	Possible Cause	Solution
No action or image after powered on	Power supply failure	Check power supply
	Power adapter damaged	Replace power adapter
	Power cable connection got loosen	Check & reconnect
No self-testing after powered on, or with motor noise	Not enough power supply	Check & reconnect power cable connection
	Mechanical failure	Repair
Not controllable from remote controller	Low battery of remote controller	Change battery for remote controller
	Exceed remote control distance	Control within distance of 8M
After power on, self-test successfully, but not controllable	Wrong address / protocol / baud rate	Check & set again
	Wrong connection or open circuit of RS-485/RS422 or RS-232 cable	Check & reconnect
Video loss when pans / tilts / zooms	Not enough power supply	Check & reconnect power cable
	Video cable not properly connected	Replace with a good video cable
Video captured after connected to digital video interface of a capture device is not good as the video captured after connected directly analog video interface of the capture device	Different video capture devices have different video capturing performance, image quality maybe worse after it has been converted from analog to digital	Consult video capture device supplier for more information

iSmart Video Tech Co., Ltd.

Add: 4F, Bldg 4, 16# Xiyuan Yi Road, Hangzhou, China

Tel: 0086-571-88842693

Web: www.ismart-video.com